

(12) United States Patent

Dewitz

(54) TRANSMISSION-PRELOADING METHOD FOR MEASURING AND TESTING A TRANSMISSION, IN PARTICULAR A DOUBLE CLUTCH TRANSMISSION, WHICH HAS AT LEAST TWO SUB-TRANSMISSIONS

(71) Applicant: THYSSENKRUPP SYSTEM ENGINEERING GMBH, Heilbronn (DE)

(72) Inventor: **Ingo Dewitz**, Hannover (DE)

Assignee: Thyssenkrupp System Engineering

GmbH, Heilbronn (DE)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 392 days.

Appl. No.: 14/157,954

(22)Filed: Jan. 17, 2014

Prior Publication Data (65)

> US 2014/0130625 A1 May 15, 2014

Related U.S. Application Data

(63)Continuation of application No. PCT/EP2012/064238, filed on Jul. 19, 2012.

(30)Foreign Application Priority Data

Jul. 20, 2011 (DE) 10 2011 108 013

(51) Int. Cl. G01M 13/02 (2006.01)G01M 15/00 (2006.01)F16H 3/08 (2006.01)F16H 61/688 (2006.01)

(10) **Patent No.:**

US 9,410,602 B2

(45) **Date of Patent:**

Aug. 9, 2016

(52) U.S. Cl. CPC F16H 3/08 (2013.01); G01M 13/025 (2013.01); G01M 13/028 (2013.01); F16H 61/688 (2013.01); Y10T 74/19251 (2015.01)

(58) Field of Classification Search CPC G01M 15/00; G01M 13/02

USPC 73/115.02 See application file for complete search history.

(56)**References Cited**

U.S. PATENT DOCUMENTS

4,356,724	Α		11/1982	Ayoub et al.	
5,537,865	A	*	7/1996	Shultz	G01M 13/025
					73/115.02

FOREIGN PATENT DOCUMENTS

DE	56 375 A1	1/1966
DE	19537639 A1	4/1997
DE	19934486 A1	1/2001
DE	10 2004 037 982 A1	2/2006
DE	10 2006 012 759 A1	9/2007

* cited by examiner

Primary Examiner — Lisa Caputo Assistant Examiner — Jamel Williams (74) Attorney, Agent, or Firm — McNees Wallace & Nurick LLC

ABSTRACT (57)

A method for testing a transmission, in particular a double clutch transmission, is provided. A torque is introduced into the transmission by means of a drive unit that is external relative to the transmission, and the transmission is switched to an operating state in which an internal component of the transmission functions as a brake in order to simulate an output unit.

15 Claims, 12 Drawing Sheets



